		DEPARTMENT	TATE OF UTAH OF NATURAL RES OF OIL, GAS AND I			FOR AMENDED REPOR		
APPLI	CATION FOR	PERMIT TO DRILL	L		1. WELL NAME and	NUMBER hurston 13-19-9-24		
2. TYPE OF WORK  DRILL NEW WELL	REENTER P8	A WELL DEEPE	EN WELL		3. FIELD OR WILDO	CAT EVILS PLAYGROUND		
4. TYPE OF WELL  Gas We	ell Coalb	ed Methane Well: NO			5. UNIT or COMMU	NITIZATION AGRE	EMENT NAME	
6. NAME OF OPERATOR	THURSTON ENER	GY OPERATING			7. OPERATOR PHO	NE 214 704-3896		
8. ADDRESS OF OPERATOR 365 V	V. 50 N. Ste W-8	3, Vernal, UT, 84078			9. OPERATOR E-MA	AIL on@thurstonenergy.c	om	
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)		11. MINERAL OWNE		- <b>1</b>	12. SURFACE OWN	ERSHIP		
U-31266  13. NAME OF SURFACE OWNER (if box 12	- 'foo')	FEDERAL ( INC	DIAN ( ) STATE (	FEE	FEDERAL IN  14. SURFACE OWN	DIAN STATE	FEE (	
·	•					•	•	
15. ADDRESS OF SURFACE OWNER (if box	12 = 'fee')		CH,		16. SURFACE OWN	ER E-MAIL (IT DOX :	12 = 'tee')	
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COM MULTIPLE FORMATI YES (Submit C		-	19. SLANT  VERTICAL DI	RECTIONAL 📗 H	ORIZONTAL 🗍	
20. LOCATION OF WELL	FO	OTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN	
LOCATION AT SURFACE	828 <b>F</b> S	SL 829 FWL	SWSW	19	9.0 S	24.0 E	S	
Top of Uppermost Producing Zone	828 FS	6L 829 FWL	SWSW	19	9.0 S	24.0 E	S	
At Total Depth	828 FS	SL 829 FWL	SWSW	19	9.0 S	24.0 E	S	
21. COUNTY UINTAH		22. DISTANCE TO N	IEAREST LEASE LIN 828	IE (Feet)	23. NUMBER OF ACRES IN DRILLING UNIT			
		25. DISTANCE TO N (Applied For Drilling		SAME POOL	<b>26. PROPOSED DEPTH</b> MD: 8000 TVD: 8000			
27. ELEVATION - GROUND LEVEL		28. BOND NUMBER	UTB-000181		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE White River Permit #49-2286			
		A <sup>.</sup>	TTACHMENTS					
VERIFY THE FOLLOWING	ARE ATTACH	ED IN ACCORDAN	ICE WITH THE U	TAH OIL AND	GAS CONSERVATI	ON GENERAL RU	JLES	
			- 4					
WELL PLAT OR MAP PREPARED BY	LICENSED SOR	VETOR OR ENGINEE	R COM	IPLETE DRILLIN	IG PLAN			
AFFIDAVIT OF STATUS OF SURFACE	OWNER AGRE	EMENT (IF FEE SURF	FACE) FORI	M 5. IF OPERAT	OR IS OTHER THAN T	HE LEASE OWNER		
DIRECTIONAL SURVEY PLAN (IF DI	RECTIONALLY	OR HORIZONTALLY	TOP6	OGRAPHICAL M	АР			
NAME Russell H. Cox	TIT	<b>LE</b> Operations Manage	er	PHONE 43	5 789-8580			
SIGNATURE	DA	TE 10/21/2010		EMAIL rus	sell.cox@thurstonenerg	y.com		
API NUMBER ASSIGNED 43047513300000	АР	PROVAL		B	ocyll			
			Permit Manager					

API Well No: 43047513300000 Received: 10/21/2010

	Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)			
Surf	12.25	9.625	0	2000			
Pipe	Grade	Length	Weight				
	Grade J-55 ST&C	2000	36.0				

CONFIDENTIAL

API Well No: 43047513300000 Received: 10/21/2010

	Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)			
Prod	7.875	5.5	0	8000			
Pipe	Grade	Length	Weight				
	Grade N-80 LT&C	8000	17.0			Г	
					Г	Γ	

CONFIDENTIAL

# **Ten Point Plan**

# **Thurston Energy Operating Company**

**Thurston 13-19-9-24** 

Surface Location SW 1/4 SW 1/4 Lot #4

Section 19, T.9S. R24E.

#### 1. Surface Formation

Green River

# 2. Estimated Formation Tops and Datum:

<u>Formation</u>		<u>Depth</u>	<u>Datum</u>
Green River		Surface	+5,321' G.L.
Bird's Nest	Water	1,600	+3,721'
Wasatch	Oil/Gas	4,191	+1,130'
Mesaverda	Oil/Gas	5,781	-460'
TD		8,000	-2,679

A 12  $\frac{1}{4}$  "hole will be drilled to 2,000' +/-. The hole depth will depend on the depth that the Birds Nest Zone is encountered. The hole will be drilled 400' beyond the top of the Birds Nest. All water and oil and gas baring zones shall be protected by casing and cement program.

# 3. Producing Formation Depth:

Formation objective includes the Wasatch, Mesaverde and its sub-members.

# 4. Proposed Casing:

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight/FT</u>	<u>Grade</u>	Coupling & Tread	<u>Casing Depth</u>	New/Used
12 ¼"	9 5/8"	36#	J-55	STC	2,000	New
7 7/8"	5 1/2"	17#	N-80	LTC	T.D.	New

#### **Cement Program:**

# The Surface Casing will be cemented to the Surface as follows:

Note: Cement amounts shown with 50% excess.

Casing Depth Lead:	<u>Casing Size</u>	<u>Cement Type</u>	Cement Amounts	<u>Cement Yield</u>	Water Mix	Cement Weight
0-1,600'	9 5/8	Premium "5" 16% Gel 10 #/sk Gilsonite 3% Salt 3 #/sk GB3 0.25 #/sk Flocele	197 sks. +/-	3.82ft <sup>3</sup> /sk	23	11.0 ppg
Tail: 1,600-2,000	9 5/8	Class "G" 2% Calcium Chlori	159 sks. +/- <sub>de</sub>	1.18ft <sup>3</sup> /sk	5	15.6 ppg
		0.25 #/sk Flocele	uc			

Top Job:

9 5/8 Class "G" 10-200 sks. +/- 1.15ft<sup>3</sup>/sk 5 15.8 ppg 4% Calcium Chloride

0.25 #/sk Flocele

Production casing will be cemented to 1800' or higher as follows:

Note: Tail should be 200' above the Wasatch Note: Cement amounts shown with 25% excess.

Casing Depth Lead:	<u>Casing Size</u>	Cement Type	Cement Amounts	Cement Yield	Water Mix	Cement Weight
1,800-3,991'	5 1/2	Premium Lite II 0.05 #/sk Static F 0.25 #/sk Cello FI 5 #/sk KOL Seal 0.005 gps FP-6L 8% Gel 0.5% R-3 0.5% FL-52	ree	3.38ft <sup>3</sup> /sk	20.52	11.0 ppg
Tail: 3,991'-8,000'	5 ½	Class "G" 0.05% Static Free 10% NACL 0.1% R-3 2% Gel	663 sks. +/-	1.31ft <sup>3</sup> /sk	5.91	14.3 ppg

#### 5. BOP and Pressure Containment Data:

A 3000-psi WP BOP system as described in the BOP and Pressure Containment Data (attached) will be installed and maintained from the 9 5/8" surface casing. An upper Kelly cock to the required pressure rating with a handle available shall be employed.

The BOP system including the casing will be pressure tested to minimum standards set forth in "On Shore Order #2". The BOP will be mechanically checked daily during the drilling program.

## 6. Mud Program:

<u>Interval</u>	Mud Weight (lbs./gal)	Viscosity (Sec./OT.)	Fluid Loss Ml/30 Mir	ns. <u>Mud Type</u>
0-2000 2000-T.D.	Air/Clear Water 8.4-9.4	30-45	No Control 8-10	Water/Gel LSND
			,	water based mud system

Note: Mud weights may exceed 9.4 due to solids increasing at or near T.D. Increased weights are not required to control formation pressure. Operator will have on location sufficient mud and weight material to increase mud weight to 9.4 at any

time while drilling the subject well. Visual mud monitoring incorporating pit level indicators shall be used.

# 7. Testing, Coring, Sampling and Logging:

a) DST: None are anticipated

b) Coring: There is the possibility of sidewall coring.

c) Mud Sampling: Every 10' from 2000' to T.D.

d) Logging: Type Interval

DLL/SFL W/GR and SP T.D. to Surf. Csg FDC/CNL W/GR and CAL T.D. to Surf. Csg

# 8. Abnormalities (including sour gas):

Based on off set wells anticipated bottom hole pressure will be less than 3000 psi. No abnormal pressures, temperatures or other hazards are anticipated. Other wells drilled in the area have not encountered over pressured zones or H2S.

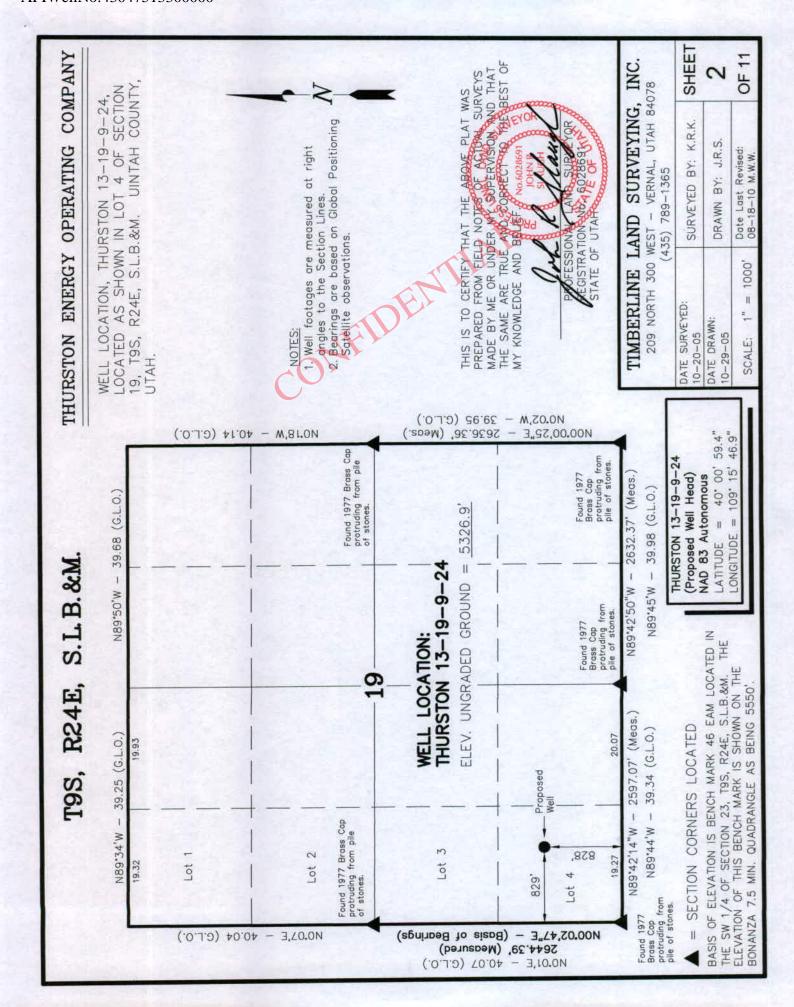
# 9. Other facets of the proposed operation:

# **Off Set Well information:**

Abandon Wells:
Devils Playground 21-19
Producing Wells:
Southman Cyn #2D-30

# 10. Drilling Schedule:

The anticipated starting date is _	Duration of operations is expected to
be 30 days.	



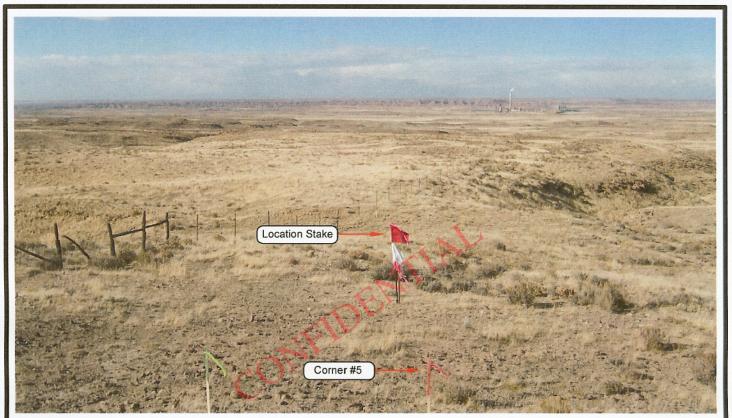


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY

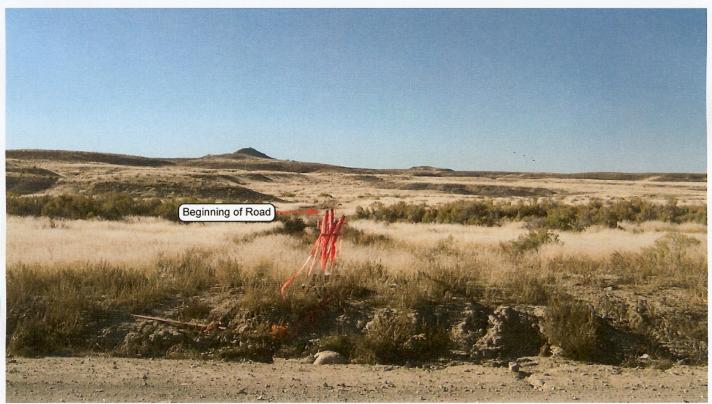


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

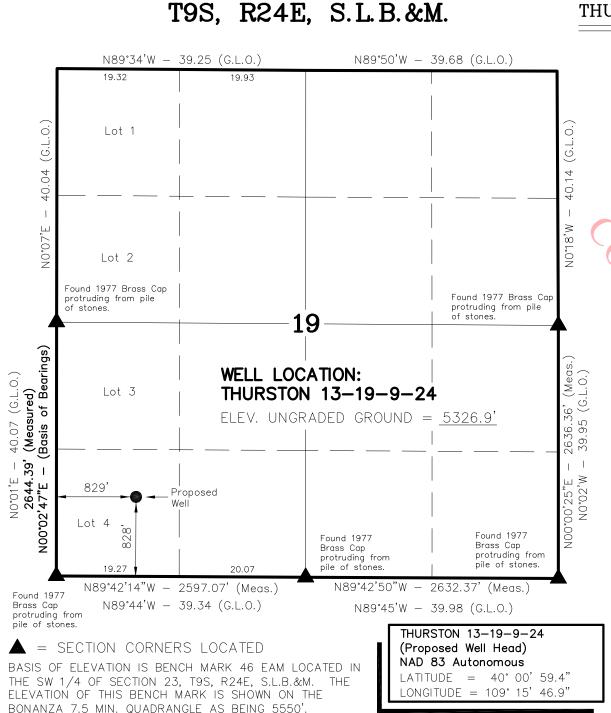
CAMERA ANGLE: SOUTHEASTERLY

# THURSTON ENERGY OPERATING COMPANY

Thurston 13-19-9-24 SECTION 19, T9S, R24E, S.L.B.&M. 828' FSL & 829' FWL

LOCATION	DATE TAKEN: 10-20-05	
LOCATION	DATE DRAWN: 10-31-05	
TAKEN BY: K.R.K.	DRAWN BY: M.W.W.	REVISED: 08-18-10 M.W.W.

Timberline Land Surveying, Inc. 209 North 300 West Vernal, Utah 84078 (435) 789-1365 SHEET 1 OF 11



## THURSTON ENERGY OPERATING COMPANY

WELL LOCATION, THURSTON 13-19-9-24, LOCATED AS SHOWN IN LOT 4 OF SECTION 19, T9S, R24E, S.L.B.&M. UINTAH COUNTY, UTAH.

#### NOTES:

1. Well footages are measured at right angles to the Section Lines.

2. Bearings are based on Global Positioning Satellite observations.

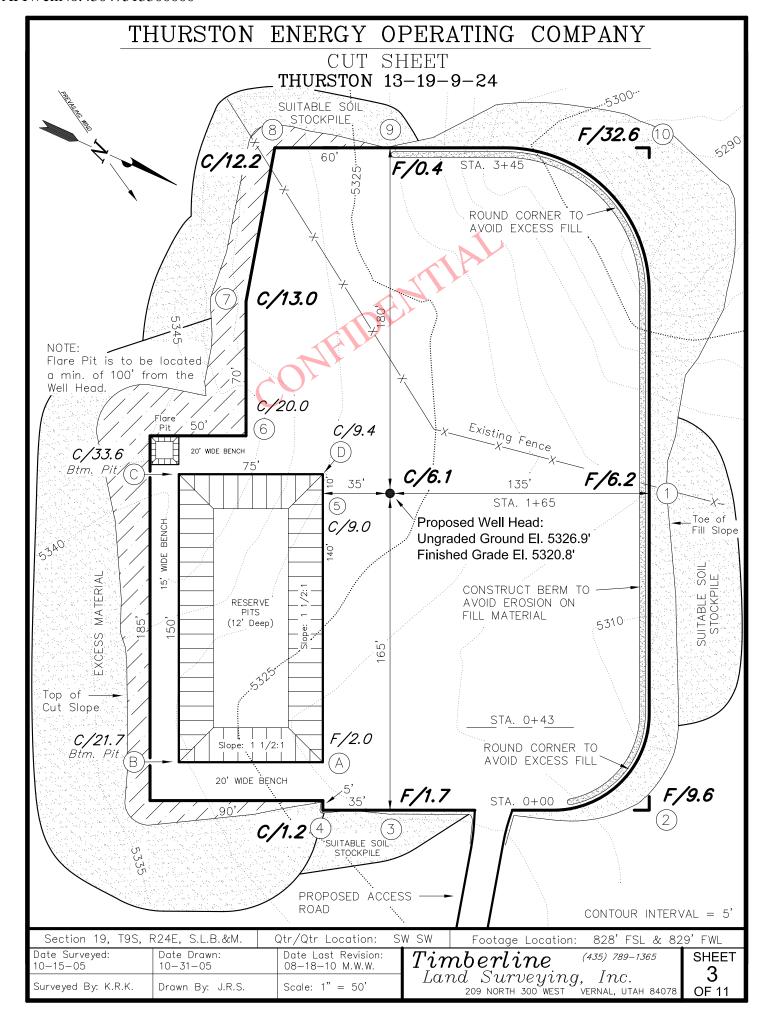
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTION SURVEYS MADE BY ME OR UNDER WY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELEF ON NO.6028691

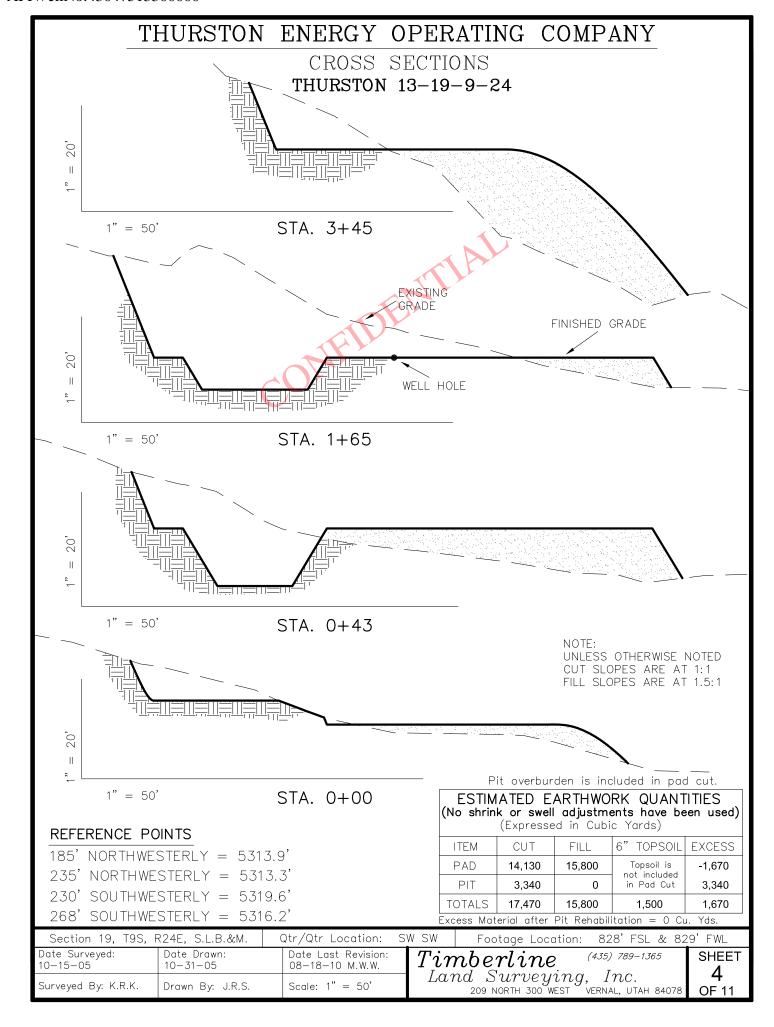
PROFESSION LAND SURFEYOR
EGISTRATION OF OF OF OF

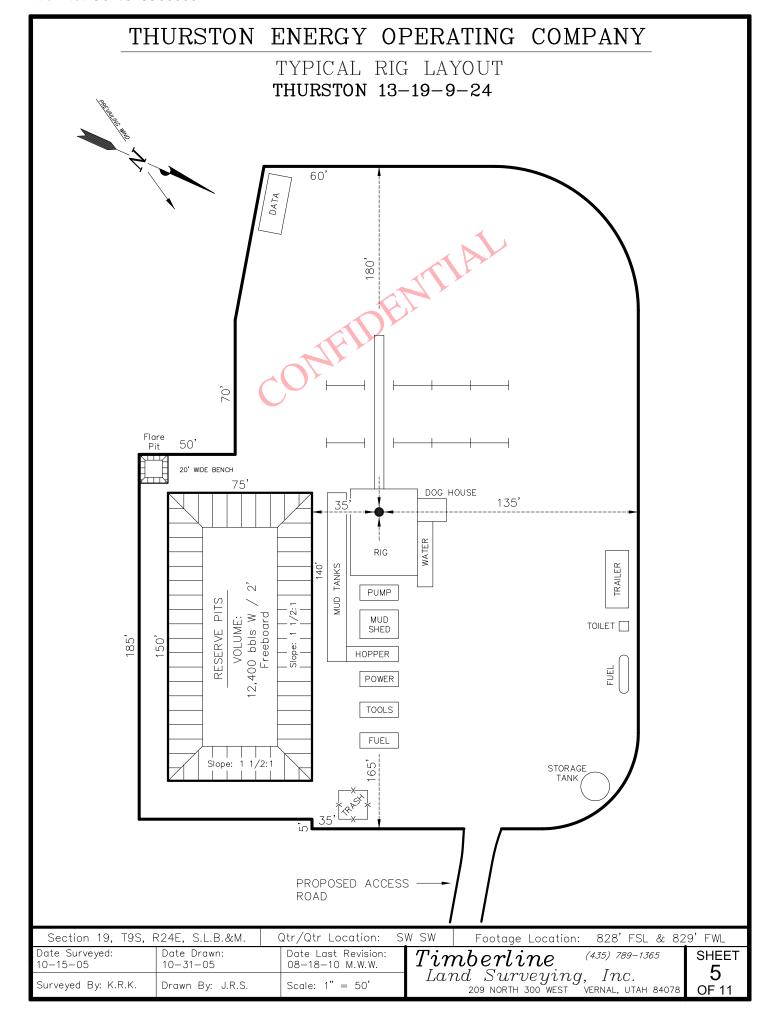
# TIMBERLINE LAND SURVEYING, INC.

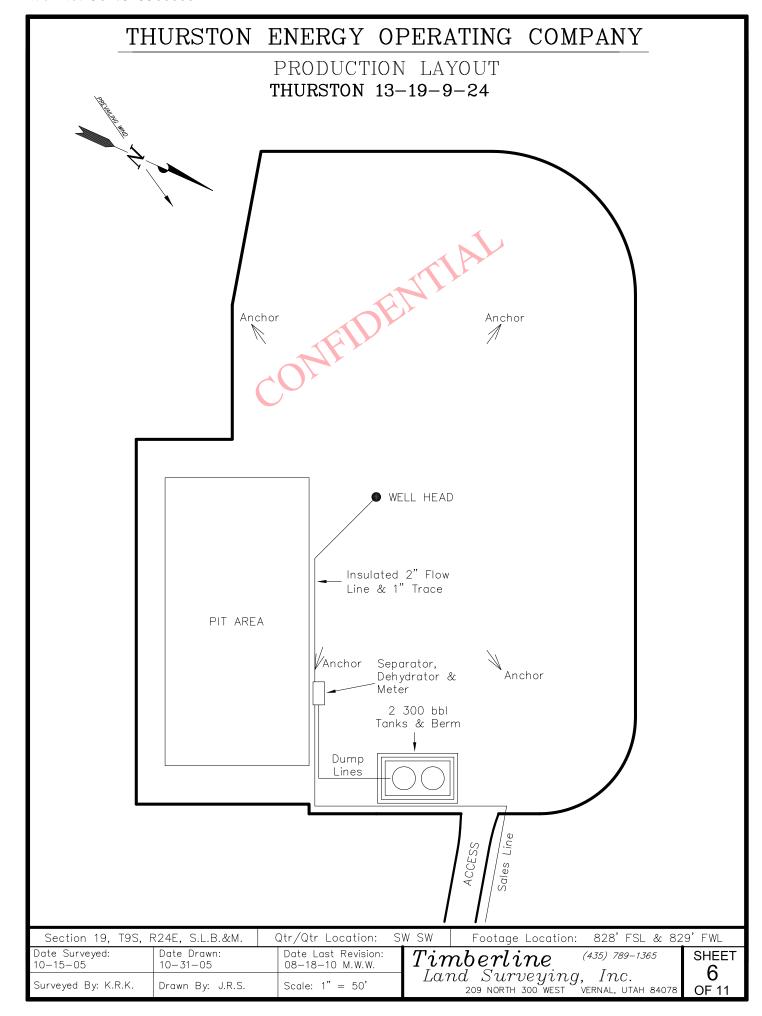
209 NORTH 300 WEST - VERNAL, UTAH 84078 (435) 789-1365

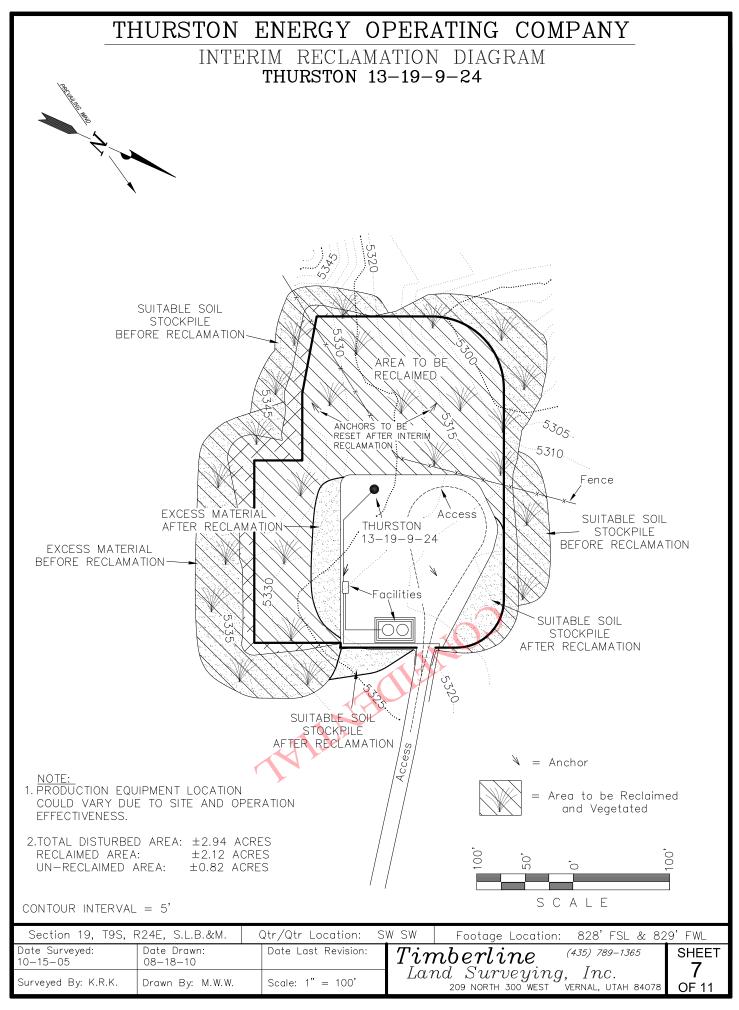
DATE SURVEYED: 10-20-05	SURVEYED BY: K.R.K.	SHEET
DATE DRAWN: 10-29-05	DRAWN BY: J.R.S.	2
SCALE: 1" = 1000'	Date Last Revised: 08-18-10 M.W.W.	OF 11

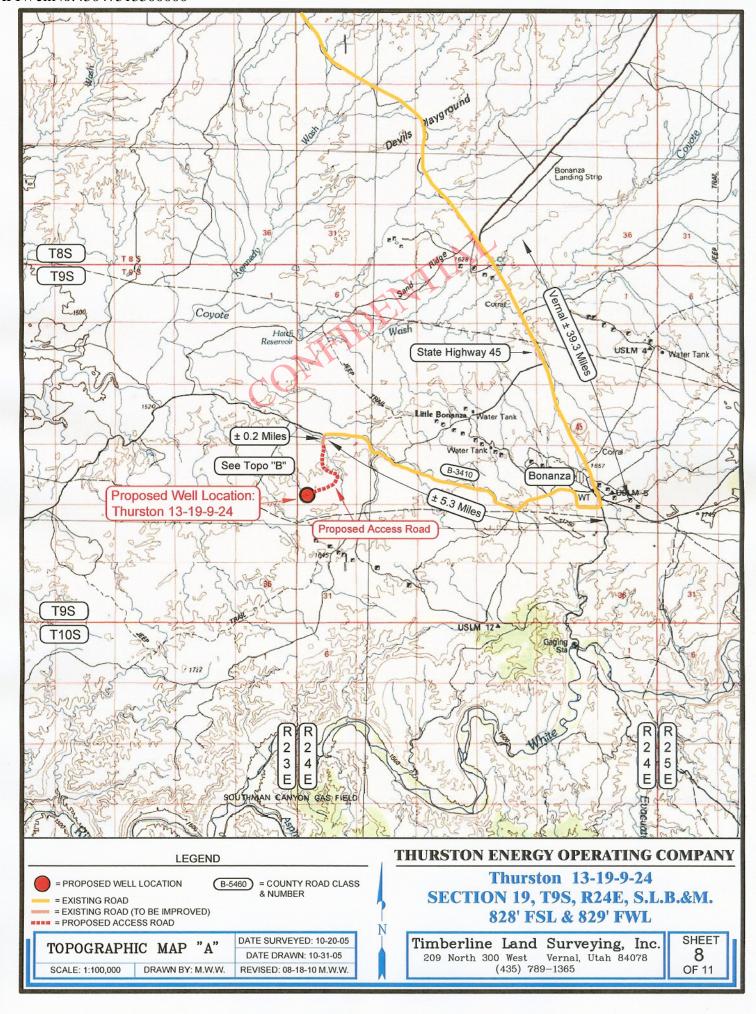


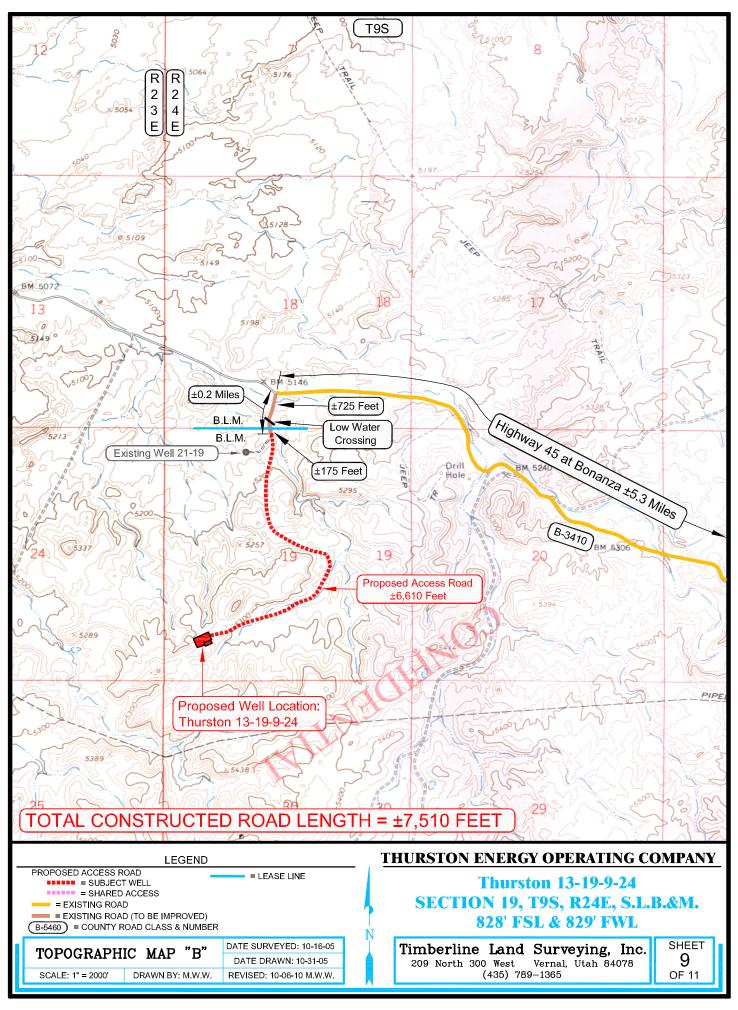


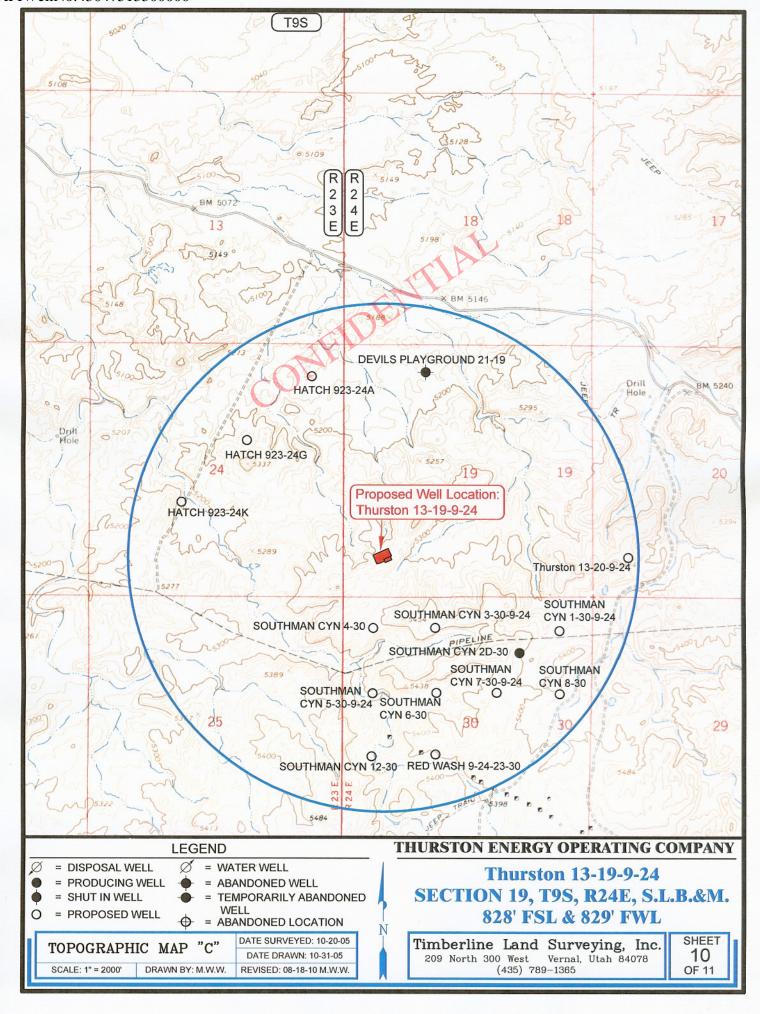


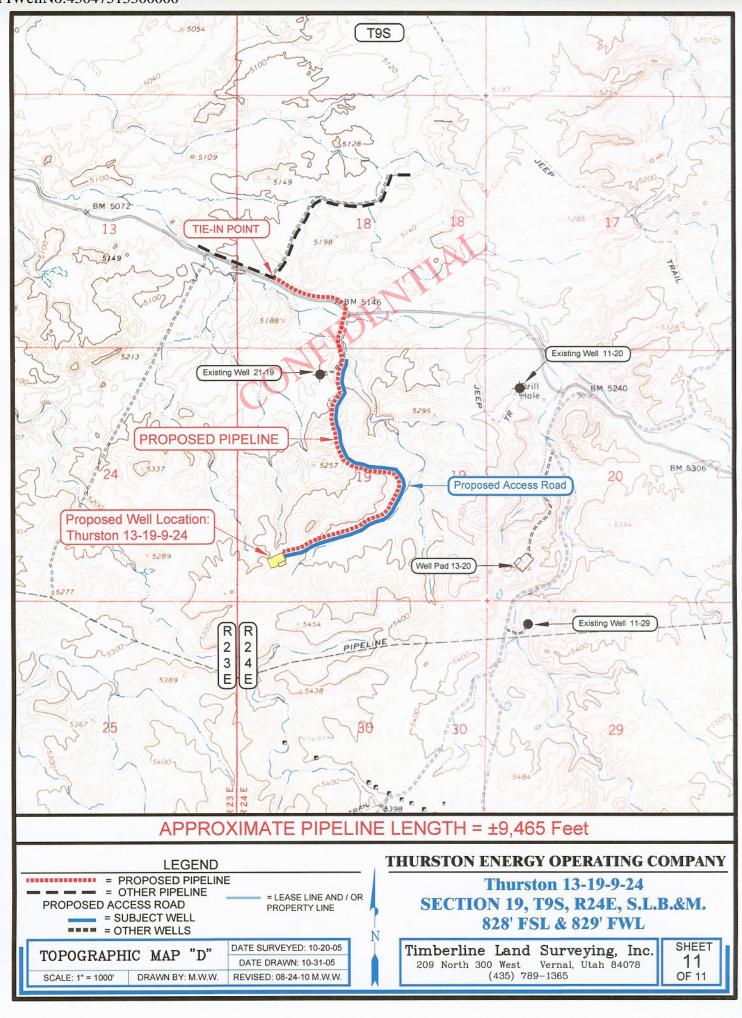








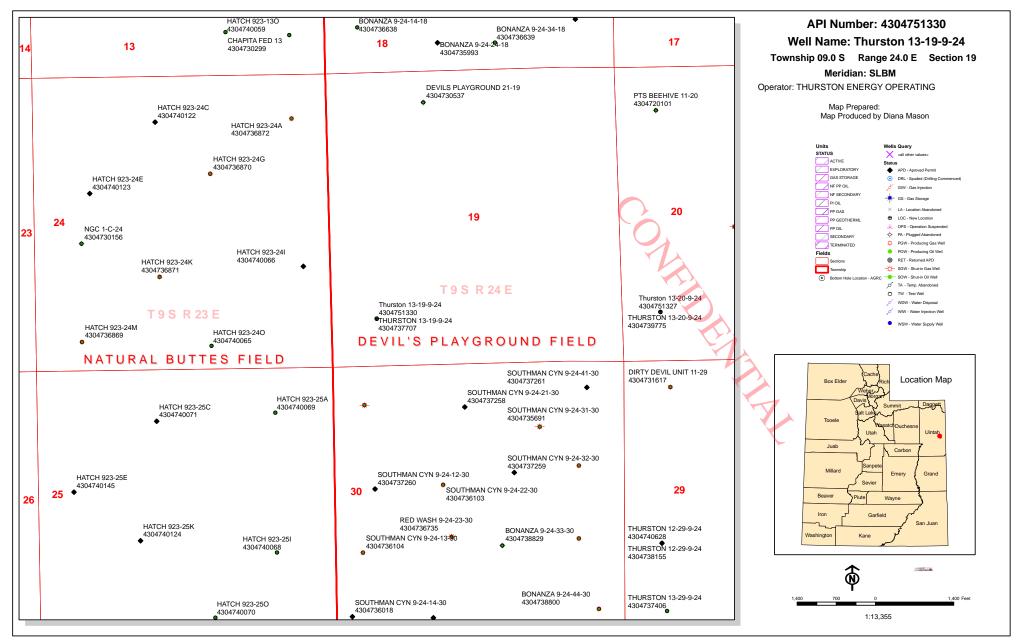




# THURSTON ENERGY OPERATING COMPANY Thurston 13-19-9-24 Section 19, T9S, R24E, S.L.B.&M.

FROM THE INTERSECTION OF U.S. HIGHWAY 40 AND 500 EAST STREET IN VERNAL, UTAH; PROCEED IN AN EASTERLY THEN SOUTHERLY DIRECTION ALONG U.S. HIGHWAY 40 APPROXIMATELY 3.3 MILES TO THE JUNCTION OF STA TE HIGHWAY 45; EXIT RIGHT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 45 APPROXIMATELY 36 MILES TO THE JUNCTION OF COUNTY BROAD 3410 (THIS ROAD IS LOCATED APPROXIMATELY 0.5 MILES SOUTH OF BONANZA, UTAH). EXIT RIGHT AND PROCEED IN A WESTERLY DIRECTION ALONG COUNTY BROAD 3410 APPROXIMATELY 5.3 MILES TO THE JUNCTION OF A RECLAIMED SERVICE ROAD. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.2 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHEASTERLY, THEN SOUTHWESTERLY DIRECTION APPROXIMATELY 6,225 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 46.0 MILES.



# WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 10/21/2010 **API NO. ASSIGNED:** 43047513300000 WELL NAME: Thurston 13-19-9-24 **OPERATOR:** THURSTON ENERGY OPERATING (N2790) **PHONE NUMBER:** 435 789-8580 **CONTACT:** Russell H. Cox PROPOSED LOCATION: SWSW 19 090S 240E **Permit Tech Review: SURFACE:** 0828 FSL 0829 FWL **Engineering Review:** BOTTOM: 0828 FSL 0829 FWL Geology Review: **COUNTY: UINTAH LATITUDE: 40.01648 LONGITUDE:** -109.26227 **UTM SURF EASTINGS: 648304.00** NORTHINGS: 4430823.00 FIELD NAME: DEVILS PLAYGROUND LEASE TYPE: 1 - Federal **LEASE NUMBER:** U-31266 PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE **SURFACE OWNER:** 1 - Federal **COALBED METHANE: NO RECEIVED AND/OR REVIEWED: LOCATION AND SITING:**  PLAT R649-2-3. Bond: FEDERAL - UTB-000181 Unit: **Potash** R649-3-2. General Oil Shale 190-5 Oil Shale 190-3 R649-3-3. Exception Oil Shale 190-13 ✓ Drilling Unit **Water Permit:** White River Permit #49-2286 Board Cause No: Cause 179-15 **RDCC Review:** Effective Date: 7/17/2008 Siting: 460' Fr Exterior Lease Boundary **Fee Surface Agreement Intent to Commingle** R649-3-11. Directional Drill **Commingling Approved Comments:** Presite Completed

Stipulations:

4 - Federal Approval - dmason

API Well No: 43047513300000



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# **Permit To Drill**

\*\*\*\*\*\*

Well Name: Thurston 13-19-9-24

**API Well Number:** 43047513300000

Lease Number: U-31266 Surface Owner: FEDERAL Approval Date: 11/1/2010

#### **Issued to:**

THURSTON ENERGY OPERATING, 365 W. 50 N. Ste W-8, Vernal, UT 84078

#### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 179-15. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available) OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov

#### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month

API Well No: 43047513300000

- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas Form 3160 -3 (August 2007)

# RECEIVED

JUN 93-2011 OCT 10 2010

FORM APPROVED OMB No. 1004-0137 Expires July 31, 2010

APPLICATION	FOR	PERMIT	то	DRILL	OR	REENJER V	211
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UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

U-31266

		Anne Lineau & W	ð			
. Type of work:				7 If Unit or CA Agreement, Name and No.		
lb. Type of Well: Oil Well Gas Well Other	Single Zone  Multiple Zone			8. Lease Name and Well No. Thurston 13-19-9-24		
2. Name of Operator Thurston Energy Operating Company			9. API Well No. 43-041-51330			
3a. Address 365 West 50 North Suite W-8 Vernal, Utah 84078	3b. Phone No 435-789-8	). (include area code) 580		10. Field and Pool, or Exploratory undesignated		
4. Location of Well (Report location clearly and in accordance with	arıy State requiren	nents.*)		11. Sec., T. R. M. or Bl	k. and Survey or Area	
At surface 828' FSL 829' FWL Lot #4	Sec. 19 T9S T24E					
At proposed prod. zone same as above						
14. Distance in miles and direction from nearest town or post office* 46 miles from Vernal, Utah				12. County or Parish Uintah	13. State UT	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of a 1,594	No. of acres in lease 17. Spacing Unit dec 40			edicated to this well	
<ol> <li>Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Propose 8,000	7		BIA Bond No. on file 0181		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approxi	22. Approximate date work will start* 03/15/2011		23. Estimated duration 30 days		
5321' GR	03/15/201					
	24. Atta					
The following, completed in accordance with the requirements of Onsh	nore Oil and Gas	Order No.1, must be a	ttached to th	is form:		
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	n Lands, the	Item 20 above).  5. Operator certific	ation	ns unless covered by an operation and/or plans as	existing bond on file (see	
25. Signature		(Printed/Typed) Curton			Date 10/12/2010	
Chief Operations Officer						
Approved by (Signature)	Name (Printed/Typed)  Jerry Kencz			zka	Date AUG 17 20	
Title Assistant Field Manager Lands & Mineral Resources	1	VERNAL FIELD OFFICE				
Application approval does not warrant or certify that the applicant ho conduct operations thereon.  Conditions of approval, if any, are attached.		table title to those righ	ts in the sub	ject lease which would en	title the applicant to	
Fitle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a States any false, fictitious or fraudulent statements or representations a	crime for any p	erson knowingly and v	villfully to n	nake to any department or	agency of the United	

(Continued on page 2)

\*(Instructions on page 2)

RECEIVED

AUG 2 9 2011

**NOTICE OF APPROVAL** 

DIV. OF OIL, GAS & MINING





# UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE** 170 South 500 East

**VERNAL. UT 84078** 

(435) 781-4400



# CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Well No:

API No:

Thurston Energy Operating Company Location:

Thurston 13-19-9-24

43-047-51330

Lease No:

Lot 4, Sec. 19, T9S, R24E

UTU-31266

Agreement: N/A

**OFFICE NUMBER:** 

(435) 781-4400

**OFFICE FAX NUMBER:** 

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

#### NOTIFICATION REQUIREMENTS

**Location Construction** (Notify Environmental Scientist)

**Location Completion** (Notify Environmental Scientist)

Spud Notice (Notify Petroleum Engineer)

Casing String & Cementing (Notify Supv. Petroleum Tech.)

**BOP & Related Equipment Tests** (Notify Supv. Petroleum Tech.)

First Production Notice (Notify Petroleum Engineer)

- Forty-Eight (48) hours prior to construction of location and access roads.
- Prior to moving on the drilling rig.
- Twenty-Four (24) hours prior to spudding the well.
- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut vn opreport@blm.gov.
- Twenty-Four (24) hours prior to initiating pressure tests.
- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

Page 2 of 8 Well: Thurston 13-19-9-24 8/10/2011

# SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop
  work and contact the Authorized Officer (AO). A determination will be made by the AO as to what
  mitigation may be necessary for the discovered paleontologic material before construction can
  continue.
- Construction and drilling activities are not allowed from January 1 August 31 to minimize impacts
  during golden eagle nesting. This timing limitation only applies to Section 19, T9S, and R24E.
- If it is anticipated that construction and drilling activities will occur during any of the given timing
  restrictions, a BLM or qualified biologist shall be notified so surveys can be conducted. Depending
  upon the results of the surveys, permission to proceed may or may not be granted by the
  Authorized Officer.
- See mitigation / applicant committed design features in EA-0317 for more specifics on conditions of approval for potential air quality impacts
- All production tanks except on the 7-9-9-24 location will be placed towards the front of the well pad
  to maximize interim reclamation, and lessen the potential long term impacts that could occur to soils
  and vegetation.
- Topsoil shall be wrapped around corner #10 for the 5-27-9-24 location as discussed on the onsite 6/30/2010.
- All access roads shall be built to BLM standards. The crown and ditch method is the standard
  which helps control runoff from increasing potential erosion rates to the road surfaces. This will
  also help divert any seasonal flows off the road into vegetated areas to increase the chance for
  reclamation success on road disturbance areas that should be reseeded after construction has
  ceased, preferably in the fall before ground freeze.
- All production equipment will be painted Covert Green to help blend in with surrounding vegetation.
- On all locations a permanent reference point must be established prior to any reclamation activities.
   This reference point helps to establish the criteria for successful reclamation based on the Green River District Reclamation Guidelines.
- A dike/berm will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater-treater). It will be constructed of

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compacted subsoil, be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut.

- The reserve pit will be fenced on three sides during drilling operations and on the fourth side when the rig moves off location. It will be fenced, and the fence maintained, until the pit undergoes reclamation efforts.
- To insure impermeability, the reserve pit will be lined with a 16 ml or greater liner and felt prior to spudding.
- Reserve pits will be closed as soon as possible, but no later than 180 days from time of drilling/well
  completion, unless the BLM Authorized Officer gives an extension. Pits must be dry of fluids or they
  must be removed via vac-truck or other environmentally acceptable method prior to backfilling, recontouring and replacement of topsoil. Mud and cuttings left in pit must be buried at least 3-feet
  below re-contoured grade. The operator will be responsible for re-contouring any subsidence areas
  that develop.
- Any hydrocarbons in the reserve pit will be removed immediately upon well completion; in accordance with 43 CFR 3162.7-1. Pits must be free of oil and other liquid and solid wastes prior to filling.
- The road surface and shoulders will be kept in a safe and usable condition and will be maintained in accordance with the original construction standards. All drainage ditches will be kept clear. The existing access road surface and pad area will be kept free of trash during all operations. All traffic will be confined to the approved disturbed surface area.
- The operator will control noxious weeds and invasive plants along corridors for roads, pipelines, well sites, or other applicable facilities, through a Pesticide Use Permit (PUP).
- An Interim Surface Reclamation Plan for surface disturbance on the well pad, access road, and
  pipeline has been completed and will be followed for reclamation of the surface. At a minimum, this
  will include the Best Management Practice of the reshaping of the pad to the original contour to the
  extent possible; the re-spreading of the top soil up to the rig anchor points; and, reseeding the
  unused area using appropriate reclamation methods (Thurston's reclamation plan).

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## The interim/final seed mix for reclamation will be:

Table 2.3.5 Interim/Final Reclamation Seed Mixture

Common name	Latin name	lbs/acre	Recommended seed planting depth
Squirreltail grass	Elymus elymoides	3.0	1/4 - 1/2"
Siberian Wheatgrass	Agropyron fragile	2.0	1/2"
Needle and Thread	Stipa comata	3.0	1/2"
Bluebunch Wheatgrass	Pseudoroegneria spicata	3.0	1/2"
Shadscale	Atriplex confertifolia	0.50	1/2"
Gardner's saltbush	Atriplex gardneri	0.50	1/2"
Scarlet globemallow	Sphaeralcea coccinea	0.10	1/8 🗆 — 1/4"

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.
- Following well plugging and abandonment, the location, access roads, pipelines, and other facilities shall be fully reclaimed. All disturbed surfaces shall be reshaped to approximate the original contour; the top soil re-spread over the surface; and, the surface re-vegetated. The surface of approved staging areas where construction activities did not occur may require disking or ripping and reseeding. In order the Final Abandonment Notice to be approved Thurston must meet the requirement for successful reclamation as outlined in the Green River District Reclamation Guidelines.

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8/10/2011

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### SITE SPECIFIC DOWNHOLE COAs:

- Gamma Ray Log shall be run from Total Depth to Surface.
- Cement for the production casing must be brought 200 feet above the surface casing shoe.

#### Variances Granted

#### Air Drilling:

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100 feet from the well bore. Variance granted for blooie line discharge to be 45 feet from the well bore.
- Compressors located in the opposite direction from the blooie line, a minimum of 100 feet from the well bore. Variance granted for truck/trailer mounted air compressors located within 45 feet of the well.
- In lieu of mud products on location for a "kill medium", water will be pulled from the reserve pit and used as a kill fluid.
- Automatic igniter. Variance granted due to lack of productive formations in the interval for the surface sassing.
- FIT test. Variance granted due to well-known geology and problems that can occur with the FIT test

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

#### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order

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No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is
  encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal
  Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

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#### **OPERATING REQUIREMENT REMINDERS:**

 All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at <a href="https://www.ONRR.gov">www.ONRR.gov</a>.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written communication
  and must be received in this office by not later than the fifth business day following the date on
  which the well is placed on production. The notification shall provide, as a minimum, the following
  informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be
  reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported
  verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will
  be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of
  Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

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core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering
  lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a
  suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be
  obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior approval
  of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior
  approval of the BLM Vernal Field Office shall be obtained and notification given before resumption
  of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.



# **United States Department of the Interior**

BUREAU OF LAND MANAGEMENT
Green River District
Vernal Field Office
170 South 500 East

Vernal, UT 84078 http://www.blm.gov/ut/st/en/fo/vernal.html

APR 17 2015



IN REPLY REFER TO: 3160 (UTG011)

Chris Curton
Thurston Energy Operating Company
4925 Greenville Ave., #840
Dallas, TX 75206

43 047 51330

RECEIVED
MAY 0 4 2015

DIV. OF OIL, GAS & MINING

Dear Chris:

The referenced Applications for Permit to Drill (APD) have expired. According to our records, no known activity has transpired at the approved location. In view of the foregoing, this office is notifying you that the approval of the referenced applications has expired. If you intend to drill at these locations in the future, a new Application for Permit to Drill must be submitted.

Lease	Well	Aliquot	Sec., T., R.	Date Rec'd	Date Exp'd
UTSL-071725C	Thurston 5-27-9-24	SWNW	Sec. 27-T9S-R24E	10/20/2010	8/10/2013
UTSL-071725C	Thurston 15-27-9-24	SWSE	Sec. 27-T9S-R24E	10/20/2010	8/10/2013
UTU-0145459	Thurston 9-7-9-24	SWNW	Sec. 7-T9S-R24E	10/20/2010	8/10/2013
UTU-0145459	Thurston 10-7-9-24	NWSE	Sec. 7-T9S-R24E	12/30/2010	8/10/2013
UTU-5217	Thurston 7-9-9-24 WA	SWNE	Sec. 9-T9S-R24E	12/16/2010	8/11/2013
UTU-31266	Thurston 13-19-9-24	Lot 4	Sec. 19-T9S-R24E	10/20/2010	8/16/2013
UTU-31266	Thurston 8-20-9-24	SENE	Sec. 20-T9S-R24E	10/20/2010	8/10/2013
UTU-31266	Thurston 13-20-9-24	SWSW	Sec. 20-T9S-R24E	10/20/2010	8/10/2013

This office requires a letter confirming that no surface disturbance has been made for these drill sites. Any surface disturbance associated with the approved location of these wells is to be rehabilitated. A schedule for this rehabilitation must be submitted to this office. Your cooperation in this matter is appreciated.

If you have any questions regarding this matter, please contact Robin R. Hansen at (435) 781-3428.

Sincerely,

/s/ Jerry Kenczka

Jerry Kenczka Assistant Field Manager Lands & Mineral Resources

cc: bcc: UDOGM Well File

I&E Asst.